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United States Patent [19]

Levine

[11] **Patent Number:** **5,974,349**[45] **Date of Patent:** ***Oct. 26, 1999**[54] **REMOTE, AIRCRAFT, GLOBAL, PAPERLESS MAINTENANCE SYSTEM**

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[*] Notice: This patent is subject to a terminal disclaimer.

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[63] Continuation of application No. 08/768,313, Dec. 17, 1996, Pat. No. 5,890,079.

[51] Int. Cl.⁶ **G06F 19/00**[52] U.S. Cl. **701/29; 701/14; 701/35; 340/945**[58] **Field of Search** **701/14, 29, 35, 701/120, 301; 340/945, 961, 963, 971; 342/29, 36, 37, 38, 454, 455, 456**[56] **References Cited****U.S. PATENT DOCUMENTS**

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[57]

ABSTRACT

This invention is a system that monitors many performance parameters and many aircraft operational parameters, and broadcasts this information along with aircraft identification, audio, video, global positioning and altitude data, to a world wide two-way rf network. This information is monitored and recorded at a remote, centralized location. At this location, this information is combined with archived data, ATC data, weather data, topological data, map data, and manufacturers' data. Analysis of this combined data allows identification of problems and generation of advisories. Six types of advisories are generated: maintenance, safety of flight, flight efficiency, flight separation, safe to fly and safe to take off. In the event of a crash the remotely recorded data provides an instant indication of the cause of the crash as well as where the crashed plane can be found. Use of this invention allows replacement of the current, on-board flight data recorders thus saving costs and weight. Having the recorded data at a remote site eliminates the need to search for flight data recorders. Other advantages are back-up for ATC radar position data, better control of aircraft separation, improved flight efficiency, and allowing use of simpler and lower power radar.

3 Claims, 4 Drawing Sheets